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Protecting pilots, law enforcement and others from lasers

Brian Rees



Forbes

EDITORS' PICK | Mar 17, 2021, 09:00am EDT | 3,597 views

FAA: Laser Strikes Against Airplanes Shot Up Alarming In 2020



Suzanne Rowan Kelleher Forbes Staff

Lasers can deliver punch to pilots; 39 strikes this fiscal year at Nashville airport

Andy Humbles Nashville Tennessean

Published 7:00 a.m. CT May 29, 2021

LAPD

LAPD Officer Partially Blinded in Laser Attack

Kyle Rice may be the first LAPD officer seriously injured by a laser beam; worries he may not be able to return to work.

By **Eric Leonard** • Published September 10, 2020 • Updated on September 10, 2020 at



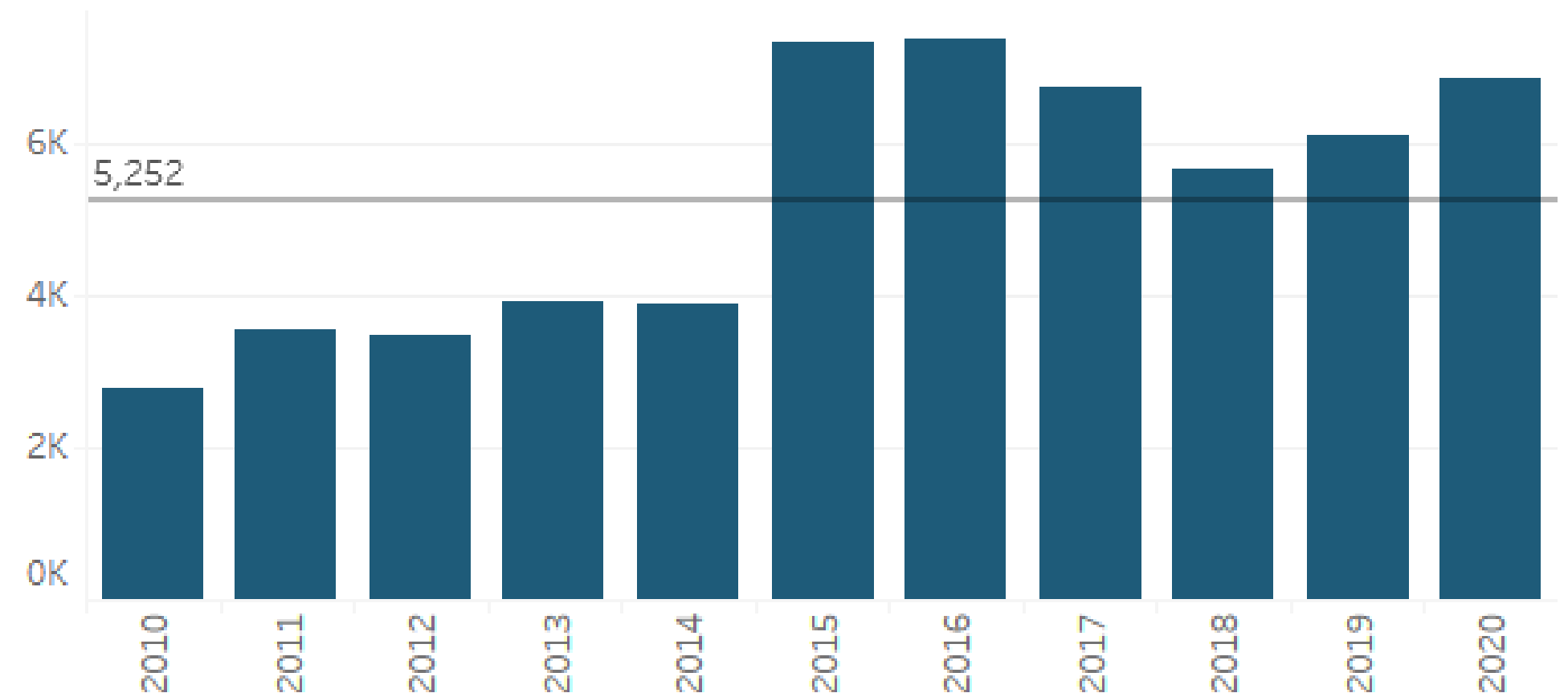
Laser lights are being shined into the eyes of Law Enforcement Officers, First Responders, and pilots to **harass, distract** or **harm** them.

SCALE OF PROBLEM

Over the last 10 years, there has been a **148% increase** in reported **aviation laser events** in the US.

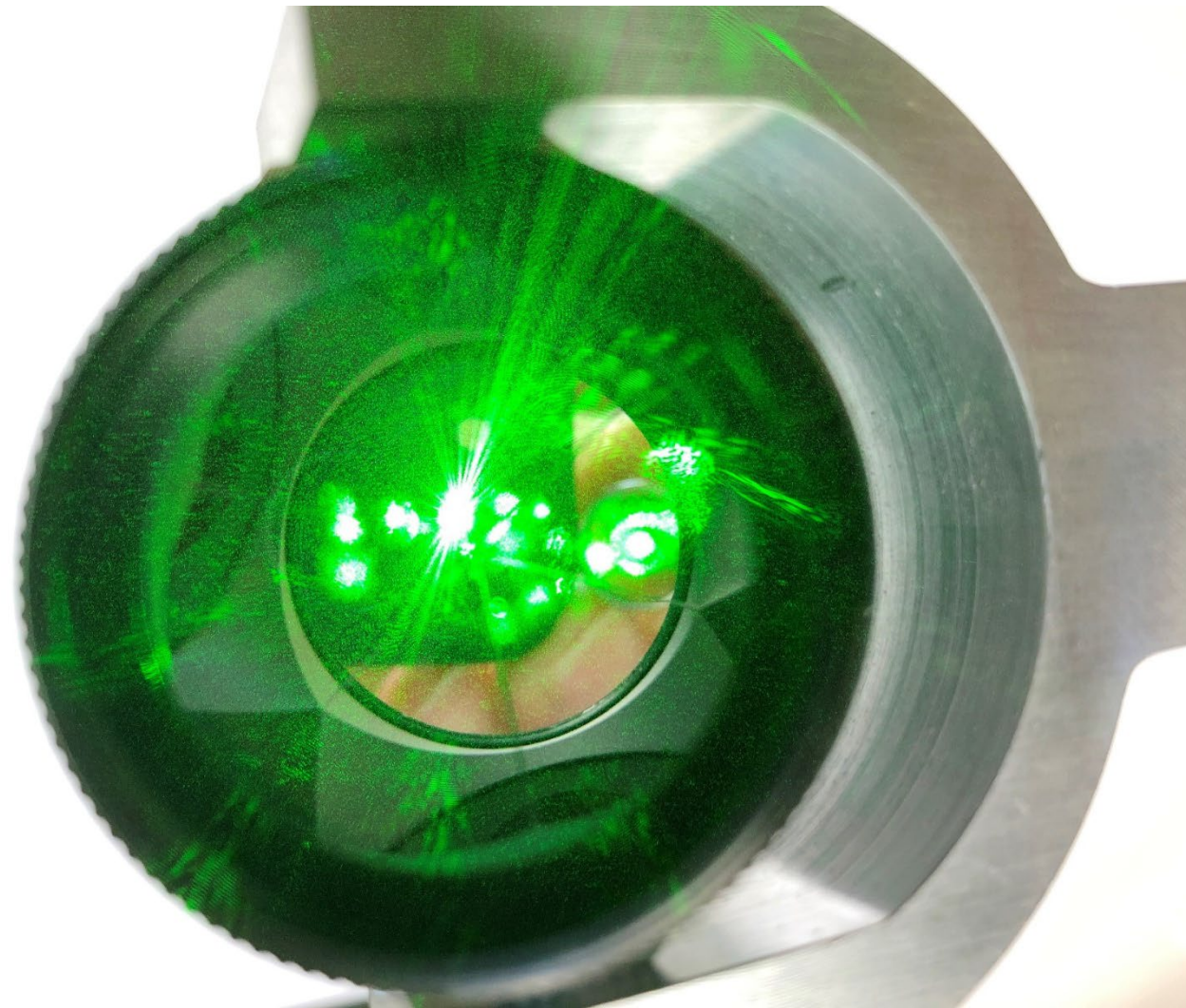
The availability of **powerful** lasers has **increased** and the price has **decreased** over time.

Number of laser events per year



A yearly average of 5.288 laser events across the US and territories.

OUR SOLUTION



Retroreflector Prisms

How it works:

Retroreflector prisms **return laser light** to the origin. This solution is both **protective** and helps **identify the location of the source**.



VALUE PROPOSITION

For Law Enforcement Officers, EMS professionals, and Pilots who are **seeking protection against increasing laser light incidents** our solution **is a suitable retroreflecting** device to attach to equipment which does **not impact or impede vision.**

TARGET CUSTOMER



Law Enforcement
Officers



Emergency Medical
Service personnel



Aircrews

MARKET SIZE

1.3 M

Total Addressable Market

U.S. Law Enforcement Officers,
EMS responders, and Aircraft
(fixed and rotary wing)

260 K

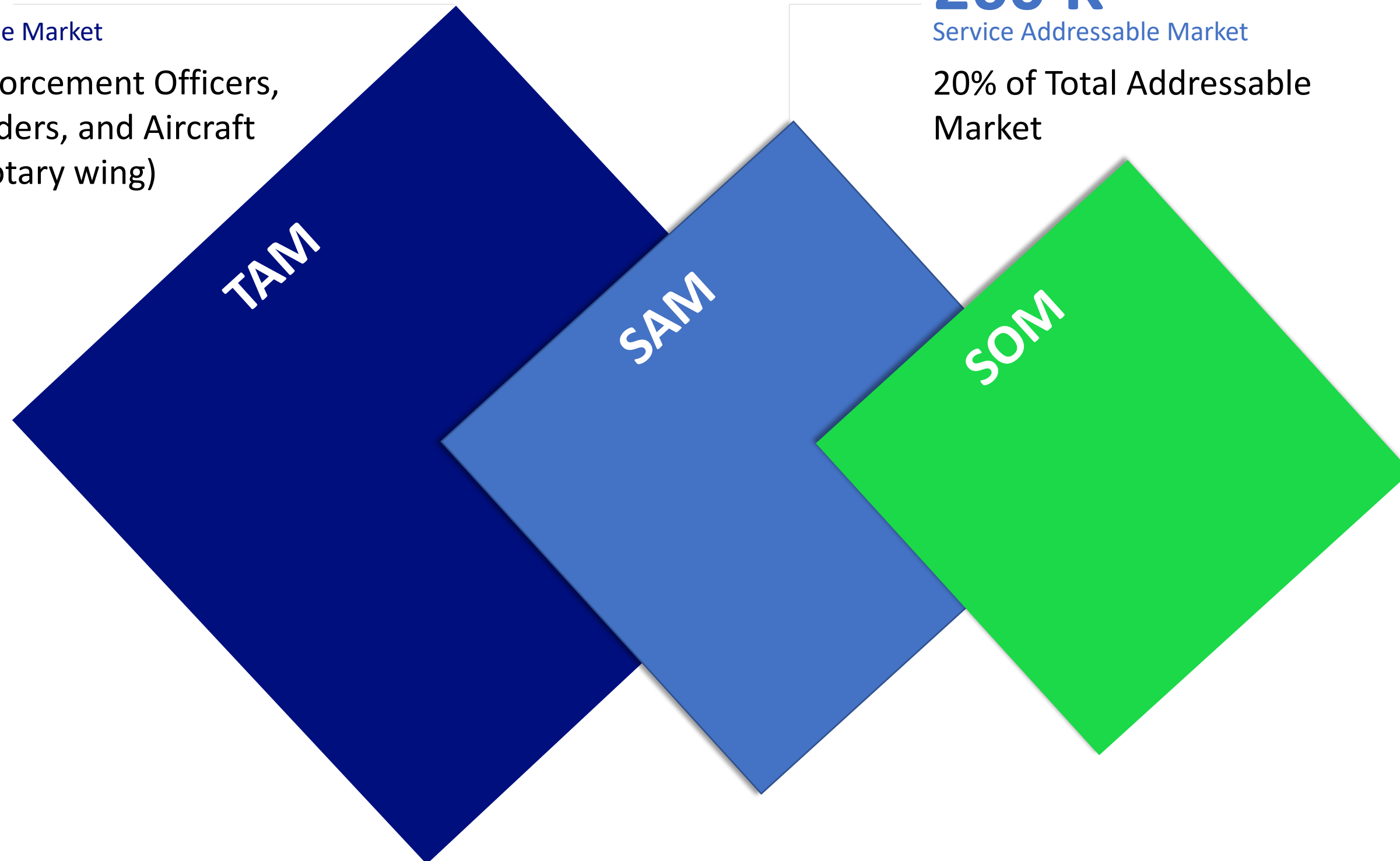
Service Addressable Market

20% of Total Addressable
Market

100 K

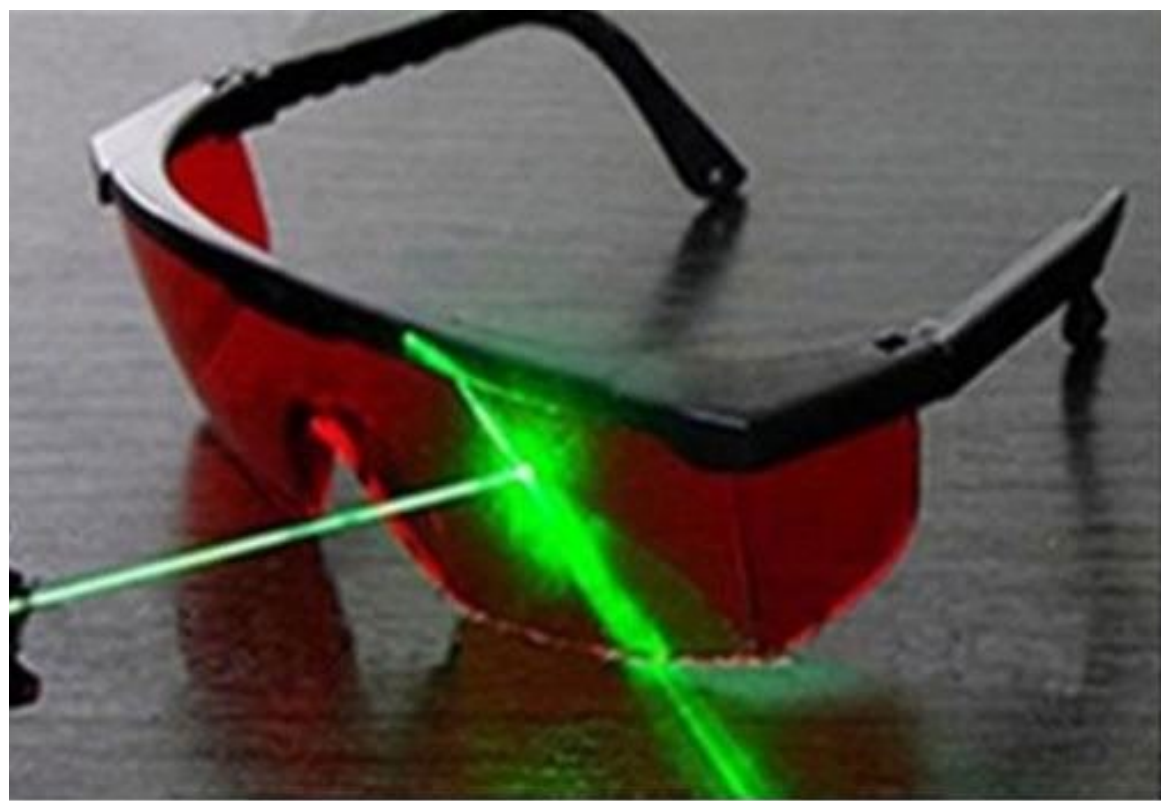
Service Obtainable Market

U.S. Law Enforcement
Officers in major
metropolitan areas



COMPETITIVE LANDSCAPE

Direct Competitor



Laser-protective eyewear:
Dark and **reduces users' vision** in the dark.

There are **no similar products** to retroreflectors for protecting from laser light use.

TECHNOLOGY ROADMAP

The known technology is well developed.



Highway signs and similar retroreflecting products need less-than-perfect retroreflection (20-70%) to work as intended.

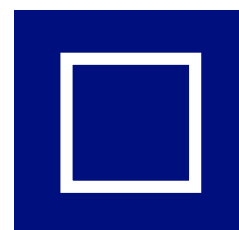
A **more perfect (>95%) reflection** may have been developed and shelved.

▶ Approach known manufacturers to learn if reflection product is available.

▶ If not available, identify a manufacturer of prisms to explore manufacturing and miniaturization.

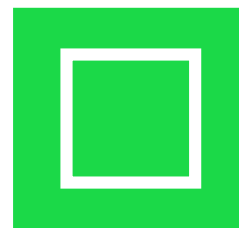
▶ Develop appropriate mounting systems.

ABOUT ME



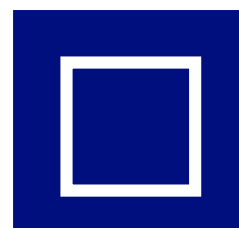
Who am I

Brian Rees, a Los Alamos National Laboratory Technical Staff Member with a wide variety of experiences



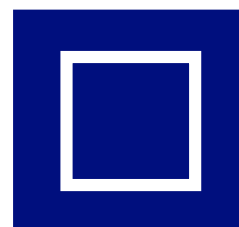
What expertise do I bring to the table

I have created innovative solutions to a variety of problems in diverse areas. I am a patentee of a currently successful commercial product.



Why I am interested in this problem

I am a licensed EMS provider and certified firefighter and I work with many Law Enforcement Officers



Why is this technology important to Los Alamos National Laboratory

Protection of Law Enforcement and EMS professionals is in the National Interest



NEXT STEPS

2021

Complete working with DOE for all rights for the IP to be assigned to me personally.

2022

Approach manufacturers for prisms and mounting systems.

2023

Saturate market with product.

THANK YOU

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